



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,264	03/17/2004	Warren M. Farnworth	MI22-2524	5382
21567	7590	07/08/2005	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			ROBERT, RUSSELL MARC	
			ART UNIT	PAPER NUMBER
			2829	

DATE MAILED: 07/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/803,264

Applicant(s)

FARNWORTH ET AL. 

Examiner

Russell M. Kobert

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 31-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31,33,35-37 and 39-41 is/are rejected.
- 7) ☒ Claim(s) 32,34,38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date dpo.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 2829

1. Applicant's Attorney, Mr. Brent Kenedy, contacted the Examiner on June 29, 2005 to request withdrawal of the Finality of the last Office Action on the grounds that no amendment to independent claim 31 required new grounds for rejection. The Examiner concurred and therefore the Finality of the last Office Action is hereby withdrawn.

2. Applicant's arguments with respect to claims 31-41 have been considered but are moot in view of the new ground(s) of rejection.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 31 and 39-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Swapp (5172050).

Swapp anticipates (Figure 1) an engagement probe (16) comprising semiconductor bulk substrate material (col 4, ln 28-30), the probe having a grouping of a plurality of projecting apexes (19) positioned in sufficient proximity to one another to collectively removably engage a plurality of different single conductive pads (13) on a plurality of different semiconductor substrates to test circuitry (col 4, ln 45-47) coupled with the single conductive pad; as recited in claim 31.

As to claims 39-41, having the semiconductor bulk substrate material comprising silicon, monocrystalline silicon or material of a semiconductor wafer is anticipated by Swapp (col 4, ln 34-39 and because semiconductor probe card 16 comprises a semiconductor material which is preferably of the same type and orientation as that of substrate 12 {col 28-30} and integrated circuits 11 are known to be separated from a wafer {col 5, ln 58-60}, semiconductor probe card would also comprise material of a semiconductor wafer).

5. Claims 31, 33, 35-37 and 39-41 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nakano (Moto'o Nakano "A Probe for Testing Semiconductor Integrated Circuits and a Test Method Using Said Probe," 25 March 1991). (Reference Figure 3)

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the

subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 33, 35, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swapp (5172050) as applied to claim 31 above, and further in view of Leedy (5323035).

As to claim 33, having the projecting apexes in the shape of multiple knife edge lines (Leedy describes the insertion structure by alternate embodiment wherein the insertion structure has a "blade-like" edge; col 7, ln 55-60) is shown by Leedy.

As to claim 35, having outermost portions (20) of a first electrically conductive material is shown by Leedy.

As to claim 36, having the projecting apexes projecting from a common plane, wherein the projecting apexes having respective tips and bases, the bases of adjacent

Art Unit: 2829

projecting apexes being spaced from one another to define a penetration stop plane (region between apexes shown in any of Figures 4a, 5a, 5b, 6 or 7) is shown by Leedy.

As to claim 37, having the projecting distance being about one-half the thickness of the respective different single conductive pads which the apparatus is adapted to engage (col 3, ln 3-17) is shown by Leedy.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the teachings of Leedy with that of Swap to make the claimed invention because Swap discusses desirability of a semiconductor probe card to accommodate a wide variety of circuit layouts using an unlimited arrangement of probe tips (col 5, ln 65 - col 6, ln 3) and Leedy demonstrates advantages of having the probe tips structurally arranged to improve surface contact and penetration of a probe's insertion structure into a metal pad of an integrated circuit under test (col 2, ln 42-50; col 5, ln 34-40) thereby improving electrical contact between a probe structure and respective devices under test, such as semiconductor integrated circuits or wafers, that is desirable for increased reliability and throughput during semiconductor testing.

9. The following is a statement of reasons for the indication of allowable subject matter:

Claims 32, 34 and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2829

The added limitations of the plurality of projecting apexes comprising linear portions which are arranged in an interconnecting structure wherein the plurality of projecting apexes lack terminal ends according to claim 32;

The added limitations of the projecting apexes being in the shape of multiple knife-edge lines and being positioned to form at least one polygon according to claim 34;

The added limitations of the projecting apexes being in the shape of multiple knife edge lines wherein the multiple knife edge lines are positioned to form an interconnecting structure comprising at least two polygons one of which is received entirely within the other according to claim 38;

Have not been found.

It is further noted that the examiner's reasons are understood to be predicated upon consideration of each of the claims as a whole, and not upon any specific elements of the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Kobert whose telephone number is (571) 272-1963. The Examiner's Supervisor, Nestor R. Ramirez, can be reached at (571) 272-2034. For an automated menu of Tech Center 2800 phone numbers call (571) 272-2800.



Russell M. Kobert  
Patent Examiner  
Group Art Unit 2829  
June 29, 2005



**VINH NGUYEN**  
**PRIMARY EXAMINER**

A.U. 2829  
06/30/05